UNIVERSITY OF MADRAS

B.A. DEGREE PROGRAMME IN ECONOMICS

SYLLABUS WITH EFFECT FROM 2023-2024

FIRST YEAR - SEMESTER II

Subject Code	Subject Name	Category	L	T	P	S	Credits	Inst. Hours	Marks		
									CIA	External	Total
104C2B	**STATISTICS FOR ECONOMICS-II**	**Core-IV**					5	5	25	75	100

Learning Objectives	
C1	To analyse correlation and regression and its applications
C2	To know the theories of probability and its applications
C3	To acquire knowledge on the application of test of Hypotheses in Research
C4	To understand the various methods of index numbers and its applications
C5	To analyse the components and measurement of time series data

UNIT	**Contents**	**No. of Hours**
I	**Correlation and Regression** Correlation – Types of Correlation – Methods -Karl Pearson's Co-efficient of Correlation –- Spearman's Rank Correlation – Regression Equations – Distinction between Correlation and Regression Analysis.	15
II	**Theory of Probability** key Concepts of Probability – Importance – Theorems of Probability: Addition, Multiplication and Bayes' Theorem - Discrete and Continuous Random Variables – Theoretical Distributions – Binomial, Poisson and Normal – Properties- Uses and Applications.	15
III	**Testing of Hypothesis** Hypothesis Testing – Meaning, Types, Sources and Functions of Hypothesis – Test: Null and Alternative Hypothesis – Type – I and Type – II Errors– 't' Test – Paired 't'-test – Chi –Square test, 'F' test –Analysis of Variance - One way and Two-way ANOVA.	15
IV	**Index Numbers** Index Numbers – Methods – Unweighted and Weighted Index Numbers – Aggregate and Relative Index Numbers – Chain and Fixed based Index Numbers – Test of Adequacy of Index Numbers – Wholesale Price Index – Consumer Price Index – Cost of Living Index.	15
V	**Time Series Analysis** Definition– Components and Measurement– Graphic Method - Methods of Semi Average, Moving Averages and Method of Least Squares – Uses of Time Series Analysis.	15
	Total	**75 hours**

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Course Outcomes		Programme Outcomes
CO	On completion of this course, students will	
1	Gain Knowledge on the Index Numbers	PO1, PO2,PO3
2	Analyze the importance of Time Series Data and its measurement	PO1,PO2,PO3
3	Understand the concept of Probability	PO2
4	Identify the various Sampling Methods	PO1, PO2
5	Acquire Knowledge on Hypothesis Testing	PO2,PO3,PO7,PO8
Textbooks		
1	S.P Gupta, (2017) "Statistical Methods", Sultan Chand & Sons.	
2	Anderson, Sweeney and Williams(2012), "Statistics for Business and Economics Cengage,2012.	
3	Pillai R.S.N. &BagavathiV(2012) "Statistics :Theory and Practice" S.Chand&CompanyLtd. New Delhi.	
4.	Dr.T.K.V.Iyengar, Dr.B.Krishna Gandhi S.Ranganantham, Dr.M.V.S.S.N Prasad, Probability and Statistics, S.Chand and Co, 2020.	
5.	Prof S.G.Vekatachalapathy and Dr.H.Premraj (2018) Statistical Methods Margham Publications.	
Reference Books		
1.	Anderson, David Ray, "Statistics for Business and Economics", South-Western Pub,2001.	
2.	Sancheti and Kapoor, Statistics, (2015) Sultan & Sons New Delhi.	
3.	Gupta S.C. Statistical Methods (2015) Sultan & sons New Delhi.	
4.	Monga G.S. "Mathematics and Statistics for Economics" (2001), Vikas Publishing House Pvt.Ltd New Delhi.	
5.	Dominick Salvatore and Derrick Reagle,theory and problems of statistics andeconometrics, McGraw Hill, (2002)	
Web Resources		
1.	https://stattrek.com/statistics/resources	
2.	https://www.cuemath.com/data/f-test/	
3.	https://www.statistics.com/	
4.	https://thisisstatistics.org/students/	
5.	https://oli.cmu.edu/courses/probability-statistics-open-free/	

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Mapping with Programme Outcomes:

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**
CO 1	3	3	3	3	3	3	3	3
CO 2	3	3	3	3	3	3	3	3
CO 3	3	3	3	3	3	3	3	3
CO 4	3	3	3	3	2	3	2	3
CO 5	3	2	2	2	3	2	3	3
Weightage	15	14	14	14	14	14	14	15
Weighted percentage of course contribution to POS	3.00	2.8	2.8	2.8	2.8	2.8	2.8	3.00

S-Strong-3 M-Medium-2 L-Low-1

Level of Correlation between PSO's and CO's

CO /PO	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	3	3	3	3	3
CO2	3	3	3	3	3
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3	3	3	3
Weightage	15	15	15	15	15
Weighted percentage of Course Contribution to PSOs	3	3	3	3	3

Strong-3 M-Medium-2 L-Low-1